



FENS Forum 2010 - Amsterdam

- Posters: to be on display from 8:00 to 13:15 in the morning and from 13:30 to 18:45 in the afternoon. Poster sessions run from 09:30 to 13:15 in the morning and from 13:30 to 17:30 in the afternoon. A one hour time block is dedicated to discussion with the authors (authors should be in attendance at their posters as from the time indicated.)
- For other sessions, time indicates the beginning and end of the sessions.

First author Pascual Brazo, Jesus (poster)

Poster board C115 - Tue 06/07/2010, 14:30 - Hall 1

Session 166 - Mental disorders 5

Abstract n° 166.26

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Title High ambient temperature reverses increased hippocampal adult neurogenesis in an animal model of anorexia nervosa

Text Activity-based anorexia (ABA) stands as the best analogous model of anorexia nervosa (AN) whereby rats submitted to food restriction and having free access to activity wheels exhibit a paradoxical increase in activity, subsequent self-starvation, and weight loss which parallels the symptoms of human AN, such as hyperactivity, restrictive eating, and weight loss. Warming ABA rats by increasing ambient temperature (AT), reverses running, preserves food-intake and enables both male and female rats to recover from acute weight loss. As adult neurogenesis has been implicated in stress-related neuropsychiatric disorders, we have investigated changes in adult neurogenesis in the ABA model and the effect of high ambient temperature.

Male Sprague-Dawley rats were subjected to a combination of scheduled feeding and free access to a running wheel until each active rat lost 20% of Day 0 body weight. At this point half of the active animals were maintained at 21°C, whereas AT was increased to 32°C for the other half. Sedentary food restricted rats housed at 21°C were used as a control group. All active (21°C) animals continued losing weight until they reached the body weight loss criterion (* 25% of Day 0) whereas all warmed active animals gained weight with a 100% of them reaching the recovery criterion. BrdU immunohistochemistry was employed to assess proliferation in the subgranular zone of the dentate gyrus. The number of BrdU positive cells increased in the active (21°C) group (around 50%) in comparison to both the sedentary animals and the active animals at 32°C. The results suggest that AT plays a role in the modulation of adult neurogenesis in an animal model of anorexia nervosa. Supported by grants from INCITE08PXIB211069PR (Xunta de Galicia) and PSI2008-01081/PSIC (Ministerio de Educación y Ciencia de España).

Theme C - Disorders of the nervous system
Mental disorders - Other